IN THE CLAIMS

Please amend the claims as follows:

Claims 1-4 (Cancelled)

Claim 5 (Currently Amended): ~~The amplifier of Claim 4,~~ An optical signal amplifier, comprising:

at least one source of pumping light, said source being configured to produce pumping light having a predominant polarization state; and

at least one depolarizer comprising a birefringent optical component having a principal axis oriented at about 45 degrees with respect to said predominant polarization state and coupled to receive said pumping light as an input and having as an output a pumping beam, wherein

a Raman gain medium within said optical signal amplifier is configured to receive said pumping beam and optical signals as inputs and to transfer energy from said pumping beam to said optical signals via stimulated Raman scattering,

said Raman gain medium is a single mode fiber that is backward pumped, and

~~wherein~~ said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of greater than 1% through 15%.

Claim 6 (Original): The amplifier of Claim 5, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 2% through 13%.

Claim 7 (Original): The amplifier of Claim 6, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 3% through 11%.

Claim 8 (Original): The amplifier of Claim 7, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 4% through 10%.

Claim 9 (Original): The amplifier of Claim 8, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 5% through 9%.

Claim 10 (Original): The amplifier of Claim 9, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 6% through 7%.

Claim 11 (Currently Amended): ~~The amplifier of Claim 3,~~ An optical signal amplifier, comprising:

at least one source of pumping light, said source being configured to produce pumping light having a predominant polarization state; and

at least one depolarizer comprising a birefringent optical component having a principal axis oriented at about 45 degrees with respect to said predominant polarization state and coupled to receive said pumping light as an input and having as an output a pumping beam, wherein

a Raman gain medium within said optical signal amplifier is configured to receive said pumping beam and optical signals as inputs and to transfer energy from said pumping beam to said optical signals via stimulated Raman scattering,

said Raman gain medium is a single mode fiber that is forward pumped, and

~~wherein~~ said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of above 1% through 10%.

Claim 12 (Original): The amplifier of Claim 11, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of above 2% through 9%.

Claim 13 (Original): The amplifier of Claim 12, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of above 3% through 7%.

Claim 14 (Original): The amplifier of Claim 13, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of above 4% through 6%.

Claims 15-16 (Cancelled):

Claim 17 (Currently Amended): ~~The amplifier of Claim 16,~~ An optical signal amplifier, comprising:

at least one source of pumping light, said source being configured to produce pumping light having a predominant polarization state; and

at least one depolarizer comprising a birefringent optical component having a principal axis oriented at about 45 degrees with respect to said predominant polarization state and coupled to receive said pumping light as an input and having as an output a pumping beam, wherein

a Raman gain medium within said optical signal amplifier is configured to receive said pumping beam and optical signals as inputs and to transfer energy from said pumping beam to said optical signals via stimulated Raman scattering,

said Raman gain medium is a non-zero dispersion shifted fiber that is backward pumped, and

~~wherein~~ said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of greater than 1% through 20%.

Claim 18 (Original): The amplifier of Claim 17, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 2% through 16%.

Claim 19 (Original): The amplifier of Claim 18, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 3% through 12%.

Claim 20 (Original): The amplifier of Claim 19, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 4% through 8%.

Claim 21 (Original): The amplifier of Claim 20, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 5% through 7%.

Claim 22 (Original): The amplifier of Claim 21, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization of about 6%.

Claim 23 (Cancelled)

Claim 24 (Currently Amended): ~~The amplifier of Claim 23,~~ An optical signal amplifier, comprising:

at least one source of pumping light, said source being configured to produce pumping light having a predominant polarization state;

at least one depolarizer comprising a birefringent optical component having a principal axis oriented at about 45 degrees with respect to said predominant polarization state and coupled to receive said pumping light as an input and having as an output a pumping beam, wherein said output pumping beam has a degree of polarization in an inclusive range of greater than 1% through approximately 40%; and

a Raman gain medium within said optical signal amplifier is configured to receive said pumping beam and optical signals as inputs and to transfer energy from said pumping beam to said optical signals via stimulated Raman scattering, wherein

said Raman gain medium is a non-zero dispersion shifted fiber that is forward pumped, and

~~wherein~~ said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of above 1% through 9%.

Claim 25 (Original): The amplifier of Claim 24, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of above 2% through 8%.

Claim 26 (Original): The amplifier of Claim 25, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of above 3% through 7%.

Claim 27 (Original): The amplifier of Claim 26, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of above 4% through 6%.

Claim 28 (Original): The amplifier of Claim 27, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of about 5%.

Claim 29 (Cancelled):

Claim 30 (Currently Amended): ~~The amplifier of Claim 29,~~ An optical signal amplifier, comprising:

at least one source of pumping light, said source being configured to produce pumping light having a predominant polarization state;

at least one depolarizer comprising a birefringent optical component having a principal axis oriented at about 45 degrees with respect to said predominant polarization state

and coupled to receive said pumping light as an input and having as an output a pumping beam, wherein

a Raman gain medium within said optical signal amplifier is configured to receive said pumping beam and optical signals as inputs and to transfer energy from said pumping beam to said optical signals via stimulated Raman scattering,

said Raman gain medium is a dispersion compensation fiber that is forward pumped, and

~~wherein~~ said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of greater than 1% through 20%.

Claim 31 (Original): The amplifier of Claim 30, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 2% through 16%.

Claim 32 (Original): The amplifier of Claim 31, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 3% through 12%.

Claim 33 (Original): The amplifier of Claim 32, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 4% through 8%.

Claim 34 (Original): The amplifier of Claim 33, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 5% through 7%.

Claim 35 (Original): The amplifier of Claim 34, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization of about 6%.

Claim 36 (Currently Amended): A method of managing polarization dependent gain in a Raman amplifier, comprising:

routing laser light having a predominant polarization state through a single birefringent component that has a principal axis oriented at about 45 degrees with respect to said predominant polarization state so as to produce a pumping beam which has a degree of polarization in an inclusive range ~~of greater than 1% through about 40%~~; ~~and~~

routing said pumping beam to a Raman gain medium within said Raman amplifier; and

determining said degree of polarization of a pumping light source in accordance with a Raman gain medium, and selecting a light source having the determined degree of polarization so as to set a polarization degree of gain to a level lower than a predetermined polarization degree of gain value.

Claim 37 (Original): The method of Claim 36, wherein said Raman gain medium being a single mode optical fiber.

Claim 38 (Original): The method of Claim 37, wherein said Raman gain medium being a single mode fiber that is forward pumped.

Claim 39 (Original): The method of Claim 37, wherein said Raman gain medium being a single mode fiber that is backward pumped.

Claim 40 (Original): The method of Claim 39, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of greater than 1% through 15%.

Claim 41 (Original): The method of Claim 40, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 2% through 13%.

Claim 42 (Original): The method of Claim 41, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 3% through 11%.

Claim 43 (Original): The method of Claim 42, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 4% through 10%.

Claim 44 (Original): The method of Claim 43, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 5% through 9%.

Claim 45 (Original): The method of Claim 44, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 6% through 7%.

Claim 46 (Original): The method of Claim 38, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of above 1% through 10%.

Claim 47 (Original): The method of Claim 46, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of above 2% through 9%

Claim 48 (Original): The method of Claim 47, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of above 3% through 7%.

Claim 49 (Original): The method of Claim 48, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of above 4% through 6%.

Claim 50 (Original): The method of Claim 36, wherein said Raman gain medium being a non-zero dispersion shifted fiber.

Claim 51 (Original): The method of Claim 50, wherein said Raman gain medium being a non-zero dispersion shifted fiber that is backward pumped.

Claim 52 (Original): The method of Claim 51, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of greater than 1% through 20%.

Claim 53 (Original): The method of Claim 52, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 2% through 16%.

Claim 54 (Original): The method of Claim 53, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 3% through 12%.

Claim 55 (Original): The method of Claim 54, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 4% through 8%.

Claim 56 (Original): The method of Claim 55, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 5% through 7%.

Claim 57 (Original): The method of Claim 54, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization of about 6%.

Claim 58 (Original): The method of Claim 50, wherein said Raman gain medium being a non-zero dispersion shifted fiber that is forward pumped.

Claim 59 (Original): The method of Claim 58, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of above 1% through 9%.

Claim 60 (Original): The method of Claim 59, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of above 2% through 8%.

Claim 61 (Original): The method of Claim 60, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of above 3% through 7%.

Claim 62 (Original): The method of Claim 61, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of above 4% through 6%.

Claim 63 (Original): The method of Claim 62, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of about 5%.

Claim 64 (Original): The method of Claim 36, wherein said Raman gain medium being a forward pumped dispersion compensating fiber.

Claim 65 (Original): The method of Claim 64, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of greater than 1% through 20%.

Claim 66 (Original): The method of Claim 65, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 2% through 16%.

Claim 67 (Original): The method of Claim 66, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 3% through 12%.

Claim 68 (Original): The method of Claim 67, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 4% through 8%.

Claim 69 (Original): The method of Claim 68, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization in an inclusive range of 5% through 7%.

Claim 70 (Original): The method of Claim 69, wherein said depolarizer is configured to provide an output pumping beam that has a degree of polarization of about 6%.

Claims 71-72 (Cancelled):

Claim 73 (Currently Amended): A light source for pumping a Raman gain medium in a Raman amplifier, comprising:

a laser light source configured to produce an output light beam having a predominant polarization state; and

a single birefringent component having an input port and an output port, wherein said input port is configured to receive said output light beam and having a principal axis oriented at about 45 degrees with respect to said predominant polarization state so as to produce a pumping beam which has a degree of polarization in an inclusive range of greater than 1% through about 10%, wherein

said output port is configured to couple said pumping beam to said Raman gain medium, and

~~The light source of Claim 72, wherein~~ said Raman gain medium ~~being~~ is a single mode fiber that is forward pumped.

Claim 74 (Currently Amended): A light source for pumping a Raman gain medium in a Raman amplifier, comprising:

a laser light source configured to produce an output light beam having a predominant polarization state; and

a single birefringent component having an input port and an output port, wherein said input port is configured to receive said output light beam and having a principal axis oriented at about 45 degrees with respect to said predominant polarization state so as to produce a pumping beam which has a degree of polarization in an inclusive range of greater than 1% through about 15%, wherein

said output port is configured to couple said pumping beam to said Raman gain medium, and

~~The light source of Claim 73, wherein~~ said Raman gain medium ~~being~~ is a single mode fiber that is backward pumped.

Claim 75 (Cancelled):

Claim 76 (Currently Amended): A light source for pumping a Raman gain medium in a Raman amplifier, comprising:

a laser light source configured to produce an output light beam having a predominant polarization state; and

a single birefringent component having an input port and an output port, wherein said input port is configured to receive said output light beam and having a principal axis oriented at about 45 degrees with respect to said predominant polarization state so as to produce a pumping beam which has a degree of polarization in an inclusive range of greater than 1% through about 9%, wherein

said output port is configured to couple said pumping beam to said Raman gain medium, and

~~The light source of Claim 75, wherein~~ said Raman gain medium ~~being~~ is a non-zero dispersion shifted optical fiber that is forward pumped.

Claim 77 (Currently Amended): A light source for pumping a Raman gain medium in a Raman amplifier, comprising:

a laser light source configured to produce an output light beam having a predominant polarization state; and

a single birefringent component having an input port and an output port, wherein said input port is configured to receive said output light beam and having a principal axis oriented

at about 45 degrees with respect to said predominant polarization state so as to produce a pumping beam which has a degree of polarization in an inclusive range of greater than 1% through about 20%, wherein

said output port is configured to couple said pumping beam to said Raman gain medium, and

~~The light source of Claim 75, wherein~~ said Raman gain medium ~~being~~ is a non-zero dispersion shifted fiber that is backward pumped.

Claim 78 (Currently Amended): A light source for pumping a Raman gain medium in a Raman amplifier, comprising:

a laser light source configured to produce an output light beam having a predominant polarization state; and

a single birefringent component having an input port and an output port, wherein said input port is configured to receive said output light beam and having a principal axis oriented at about 45 degrees with respect to said predominant polarization state so as to produce a pumping beam which has a degree of polarization in an inclusive range of greater than 1% through about 20%, wherein

said output port is configured to couple said pumping beam to said Raman gain medium, and

~~The light source of Claim 71, wherein~~ said Raman gain medium ~~being~~ is a dispersion compensating fiber that is forward pumped.

Claim 79 (New): The method of Claim 36, wherein said step of determining said degree of polarization includes determining a direction to be pumped.

Claim 80 (New): An optical amplifier, comprising:

a laser light source configured to produce an output light beam having a predominant polarization state;

at least one depolarizer including a birefringent optical component having a principal axis oriented at about 45 degrees with respect to said predominant polarization state and coupled to receive said output light beam as an input and having as an output a pumping beam; and

a Raman gain medium configured to receive said pumping beam and optical signals as an input and to transfer energy from said pumping beam to said optical signals via stimulated Raman scattering, wherein said Raman gain medium causes variation in relative orientations of electric fields of the optical signals and the pumping beams.

Claim 81 (New): A method of optical amplification, comprising:

pumping light to produce pumping light with a predominant polarization state;

depolarizing said pumping light with at least one depolarizer including a birefringent optical component having a principal axis oriented at about 45 degrees with respect to said predominant polarization state to output a pumping beam; and

transferring energy from said pumping beam to optical signals via stimulated Raman scattering with a Raman gain medium configured to receive said pumping beam and said optical signals as an input and to transfer energy from said pumping beam to said optical signals, wherein said Raman gain medium causes variation in relative orientations of electric fields of the optical signals and the pumping beams.

Claim 82 (New): A light source for pumping a Raman gain medium in a Raman amplifier, comprising:

at least one source of pumping light, said source configured to produce said pumping light with a predominant polarization state;

at least one depolarizer including a birefringent optical component having a principal axis oriented at about 45 degrees with respect to said predominant polarization state and coupled to receive said pumping light as an input and having as an output a pumping beam; and

a Raman gain medium configured to receive said pumping beam and optical signals as an input and to transfer energy from said pumping beam to said optical signals via stimulated Raman scattering, wherein said Raman gain medium causes variation in relative orientations of electric fields of the optical signals and the pumping beams.